

Metropolitan Atlanta Land Supply Study

Center for Geographic Information Systems
Georgia Institute of Technology
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I. OVERVIEW

Several earlier studies have shown that there is a significant shortfall of affordable housing in the Atlanta Metropolitan area. The 2002 Fair Share Housing in the Atlanta Region report produced by Sawicki et al. for the Atlanta Neighborhood Development Partnership (ANDP) documented a shortfall of approximately 190,000 affordable housing units within twenty-four job centers across the region.¹ Through its “Making the Case” program ANDP has identified a number of builders and developers who are willing to help close this gap. Many builders and developers have expressed interest, but asked, “Is there enough land available in or near these job centers?” In the fall of 2006, ANDP engaged Georgia Tech’s Center for Geographic Information Systems (CGIS) to conduct a detailed study of potentially developable land in the five core counties of the Atlanta Metropolitan Area (Clayton, DeKalb, Fulton, Gwinnett, Cobb). This report provides a summary of the results of this study and documents the methods used to identify currently undeveloped and potentially redevelopable properties located in job centers in Metropolitan Atlanta.

The CGIS analysis found that there is a significant amount of undeveloped land in most of the job centers. It also found that there is a significant amount of potentially redevelopable land in many job centers. This study did not attempt to identify which properties are currently available for sale, but to provide builders and developers with an initial guide to the amount and location of property that may be available for affordable housing. Detailed results of the analysis for each job center are available through the ANDP website.

II. METHODOLOGY

This section details steps taken by CGIS to identify both undeveloped and potential redevelopment properties located in job centers across five metro counties.

A. Job Centers

The objective of this project is to identify undeveloped land and land with a high potential for redevelopment in employment or job centers in five Metro Atlanta core counties. Since there are no

¹ Fair Share Housing in the Atlanta Region Report, Georgia Institute of Technology, City and Regional Planning

“official” job centers for Metro Atlanta, the job center locations utilized for this project were created as part of a 2002 Fair Share Housing study sponsored by ANDP. Essentially, the 2002 Fair Share Housing Study identified and ranked contiguous groupings of census tracts with high employment density and high number of jobs. These agglomerations of census tracts are the job centers. Twenty-four job centers were created, twenty three of which are used in this project (one of the twenty four job centers falls outside of this project’s study area). See Appendix 1 for a map and list of job centers used as part of this project.

B. Potential Redevelopment Properties

Once the job centers were identified, CGIS identified potential redevelopment properties for each job center in the study area using publicly available property and tax assessor data listed in Table 1.

GIS Layers (Property Boundaries)	Source	Tax Assessor Data	GIS Data	Source
Clayton Parcel Centroids*	Georgia Tech	2006	2001	County
Cobb Parcels	Cobb County	2006	2006	County
DeKalb Parcels*	Georgia Tech	2006	2001	County
Fulton Parcels	Fulton County	2006	2006	County
Gwinnett	Gwinnett County	2006	2001	County

Table 1. Data Sources

* Clayton and DeKalb Counties do not have parcel boundary data in GIS format. For these counties, CGIS utilized parcel boundary data created as part of a 2001 research project combined with current tax assessor information.

The formula or ratio below was used to identify “potentially” redevelopable property.

Redevelopment Ratio

Parcel Land Value / Parcel Improvement Value = Redevelopment Ratio

Real World Example

Property A has a 300,000\$ land value and a 100,000\$ improvement value. Therefore, the redevelopment ratio for property A is 3 or 300,000\$ / 100,000\$. In simple terms, the land value of property A is three times as valuable as the improvements on property A.

CGIS determined that any parcel with a Redevelopment Ratio ≥ 1.5 is “potentially” redevelopable. Any property with a Redevelopment Ratio ≥ 1.5 is thought to be a parcel located in an area where land values are rising substantially faster than improvements can be made. This ratio can be adjusted upwards or downwards depending on the circumstances. The Redevelopment Ratio was calculated for all properties inside of the job centers. However, only properties with a Redevelopment Ratio ≥ 1.5 are depicted on the maps in Appendix...

While this method is not perfect, it does provide a starting point from which to begin identifying properties that could be redeveloped. It should be noted that this method assumes that tax valuations are up to date and accurate.

C. Undeveloped Properties

ARC Undeveloped

Using the Atlanta Regional Commission's 2005 LandPro² GIS data in conjunction with publicly available property and tax assessor data, CGIS identified undeveloped properties (parcels) by job center across the study area. Initially, CGIS extracted all areas classified as undeveloped in the 2005 LandPro data. However, any undeveloped areas which included the 100 year floodplain or any National Wildlife Inventory (NWI) wetlands were also excluded. The result is a GIS dataset containing non-environmentally sensitive undeveloped lands for the study area. CGIS then overlaid the non-environmentally sensitive undeveloped land layer with the parcel/tax information for each county to obtain a GIS layer of ARC based undeveloped properties for each job centers in the study area. Since the ARC's LandPro data is not created following parcel boundaries, CGIS determined the percentage of non-environmentally sensitive undeveloped land per parcel. This was accomplished using standard GIS

² The ARC's LANDPRO data is a land cover / land use classification data set created by on-screen photo-interpretation and digitizing of ortho-rectified aerial photography at a scale of 1:14,000. In general, the ARC identifies land based on its apparent cover / use and classifies it into distinct categories (commercial, parks, etc). There is a 5 acre minimum for land cover and 25 acre minimum for land use.

overlay techniques. Any parcel with greater than 75% of its area classified as non-environmentally sensitive and undeveloped was determined to have met the “undeveloped” criteria and therefore was mapped.

Other Undeveloped

Using tax assessor data obtained from the study area counties, CGIS identified properties where the improvement value was zero. A property with no improvement value, in theory, indicates a property without any improvements (e.g., parking lot, vacant or undeveloped lot). However, in many instances, a property without an improvement value in the tax roll does have physical improvements on site. The reasons for these discrepancies are unclear and not discussed in this report. However, to remedy these discrepancies, CGIS visually inspected each property without improvements through on screen photo interpretation using 2005, 1ft true color aerial imagery at a scale of approximately 1:10,000. Properties with visible improvements on site were discarded. After verifying properties with no improvement values, CGIS removed any properties that were primarily located in the 100 year floodplain or a wetland. The result is an environmentally sensitive GIS dataset of properties with no improvements.

III. RESULTS

All potentially redevelopable and undeveloped properties were successfully mapped by job center. Maps showing the location of undeveloped and potentially redevelopable properties in each job center can be found in Appendix 1. Total acres of undeveloped and potentially redevelopable land can be found in Table 2 below.

JOB CENTER	ARC UNDEVELOPED ACRES	OTHER UNDEVELOPED ACRES	REDEVELOPMENT ACRES
Airport	1,231	1,114	585
Buckhead	33	419	1,184
Central Perimeter	546	395	1,516
Chamblee/Doraville	141	371	656
Cumberland/Vinings	1,283	827	162
Decatur	85	110	290
Downtown	35	178	390
Duluth/Berkeley Lake	2,495	1,407	1,792
Emory/N Druid Hills	40	133	263
I-285 East Corridor/Clarkston	177	199	230
Lawrenceville	1,458	1,944	1,889
Lilburn	348	468	1,334
Marietta	1,827	1,025	2,952
Midtown	159	217	552
Norcross	299	628	878
North DeKalb/Northlake Mall	592	566	526
Panola Road Corridor	483	400	158
Roswell/Alpharetta	3,836	1,458	1,950
S. DeKalb Mall	244	155	89
Six Flags/Fulton Industrial	13,269	2,267	1,669
South Atlanta	1,498	314	388
South Cobb/Austell	373	275	672
Town Center/Kennesaw	545	245	888

Table 2. Acreage totals for potential land supply by job centers

As part of the Fair Share Housing study³, Georgia Tech also estimated the number of affordable housing units needed to meet employment demand for each job center. Table 3 below lists the housing deficits, the acreage of potential redevelopment and undeveloped properties, and the density 'needed' (units/acres) to balance the housing demand with the employment supply for each job center. A density needed value was calculated for the potentially redevelopable and undeveloped properties, both individually and combined. Only job centers with housing deficits are included in Table 3.

³ Fair Share Housing in the Atlanta Region Report, Georgia Institute of Technology, City and Regional Planning, 2002

Job Center	Housing Deficits # of Units	ARC Undeveloped Acres	Other** Undeveloped Acres	Total Undeveloped Acres	Potential Redevelopment Acres	Density Needed Units per Acre Undeveloped	Density Needed Units per Acre Redevelopment	Density Needed Units per Acre Both
Airport	25,611	1,231	1,114	2,344	585	11	44	5
Buckhead	27,488	33	419	452	1,184	61	23	13
Central Perimeter	22,268	546	395	941	1,516	24	15	7
Chamblee/Doraville	10,792	141	371	513	656	21	16	6
Cumberland/Vinings	6,290	1,283	827	2,110	2,292	3	3	1
Decatur	1,574	85	110	196	290	8	5	2
Downtown	69,471	35	178	213	390	326	178	85
Duluth/Berkeley Lake	7,895	2,495	1,407	3,902	1,792	2	4	1
Emory/N Druid Hills	2,672	40	133	173	263	15	10	4
Marietta	3,611	1,827	1,025	2,852	2,952	1	1	> 1
Midtown	30,770	159	217	377	552	82	56	24
Norcross	14,668	299	628	927	878	16	17	5
North DeKalb/Northlake Mall	57	592	566	1,157	526	> 1	> 1	> 1
Six Flags/Fulton Industrial	11,997	13,269	2,267	15,536	1,669	1	7	> 1
Town Center/Kennesaw	6,312	545	245	790	888	8	7	3
Housing Deficit Source - Fair Share Housing in the Atlanta Region, Georgia Institute of Technology, City and Regional Planning								
** Other = No improvement value								

Table 3. Housing Deficits, Potential Land Supply and Density Needed by Job Centers

Essentially, the density needed value is the number of units per acre needed to build all the housing units (deficits) in a job center by utilizing all of the identified available land (potentially redevelopable or undeveloped). The density needed values were calculated by dividing the number of housing units needed by the number of available acres of a given property type. For example, the Central Perimeter job center has a housing deficit of roughly 22,000 units. CGIS identified close to 900 acres of undeveloped land in that job center. If all 900 acres of undeveloped land were developed for housing, the density needed to meet the housing demand in the Central Perimeter center is approximately 24 units per acre. While the likelihood of developing all undeveloped land in a given job center is extremely small, the density needed values provide ANDP with a sense of the type and scale of developments needed to meet housing demands in any given job center.

IV. PROPERTY DATA CONCERNS

The tax assessor data utilized for this project originates from the various counties. In the opinion of CGIS researchers, the accuracy of the land and improvement valuations contained within the tax rolls

varies widely between jurisdictions. Consequently, these inaccuracies affect the validity of the Redevelopment Ratio created as part of this project. For example, Atlantic Station initially showed up as a potential redevelopment property due to an extremely low improvement value (Atlantic Station was under construction at the time of data capture – hence, low improvement value). Fortunately, CGIS knew the valuations to be inaccurate and therefore did not include Atlantic Station as a potential redevelopment property.

To minimize these inaccuracies, CGIS researchers manually removed or excluded any potential redevelopment properties thought to be erroneously categorized as potential redevelopment because of their inaccurate or out of date valuations. Selecting properties that had inaccurate valuations was a subjective process and relied solely on CGIS researchers' local knowledge of land values. The format and codes (land use, property class) in each roll also vary widely from county to county so any land use code or property class comparisons between counties may be erroneous. In short, there is no standard tax roll used across these counties.

V. RECOMMENDATIONS

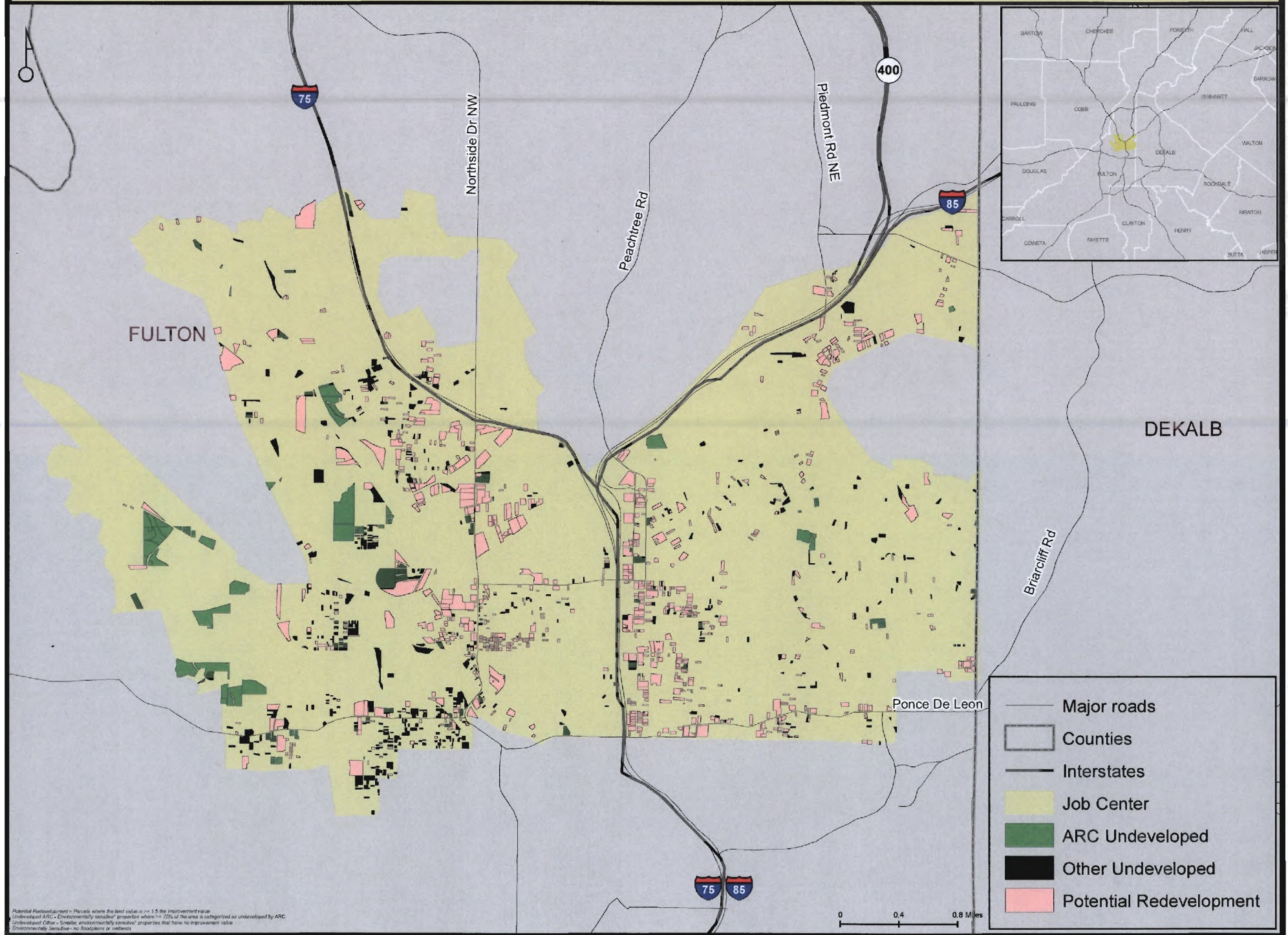
The Potential Land Supply Maps created for this project are snapshots in time. If these maps are to be useful to developers over a period of time, the maps should be updated as frequently as possible. Unfortunately, frequent updates will be difficult because the property data needed for these maps and analyses is only available from the individual counties, if it exists at all (Clayton and DeKalb). Assuming minimal building constraints, it is also safe to say that the vast majority of undeveloped land identified in this project will be developed over time and most likely, sooner rather than later. So, to effectively utilize this data, CGIS recommends:

- ANDP should work with ARC to develop and maintain a regional parcel database. This could be accomplished by simply obtaining the GIS property and tax assessor data from each county on a semi-annual basis for use in this project as well as others. Tax assessor data could be standardized across the counties and updates to this project could be made on a semi- annual basis. The value gained from a regional parcel database is enormous and would be a great asset to many land planners, developers, and conservationists across the region.

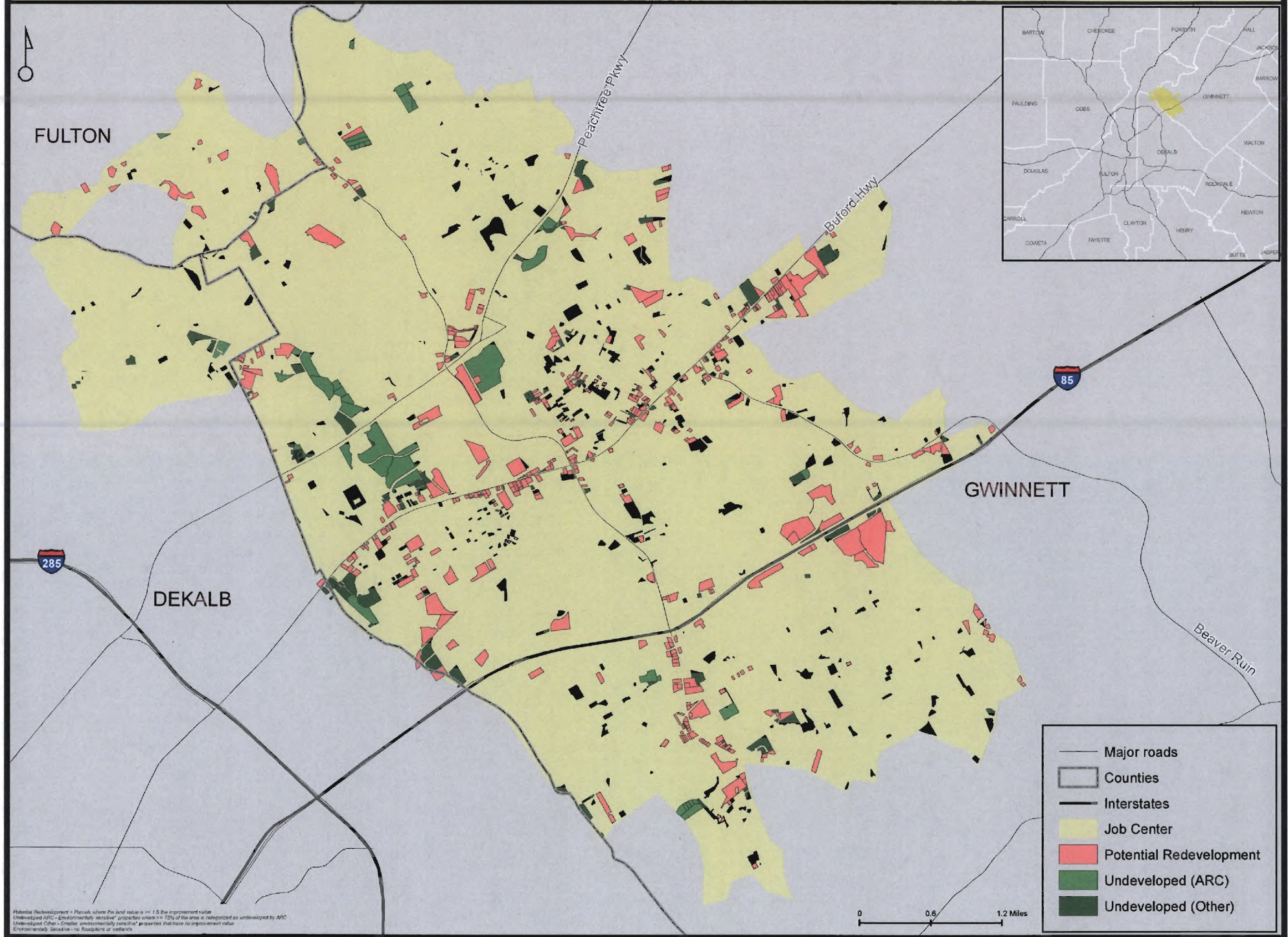
- In lieu of a regional parcel database, CGIS suggest that the maps be updated by ANDP on a yearly basis, following the same methods used in this project.

APPENDIX 1 - JOB CENTERS AND POTENTIAL LAND SUPPLY MAPS

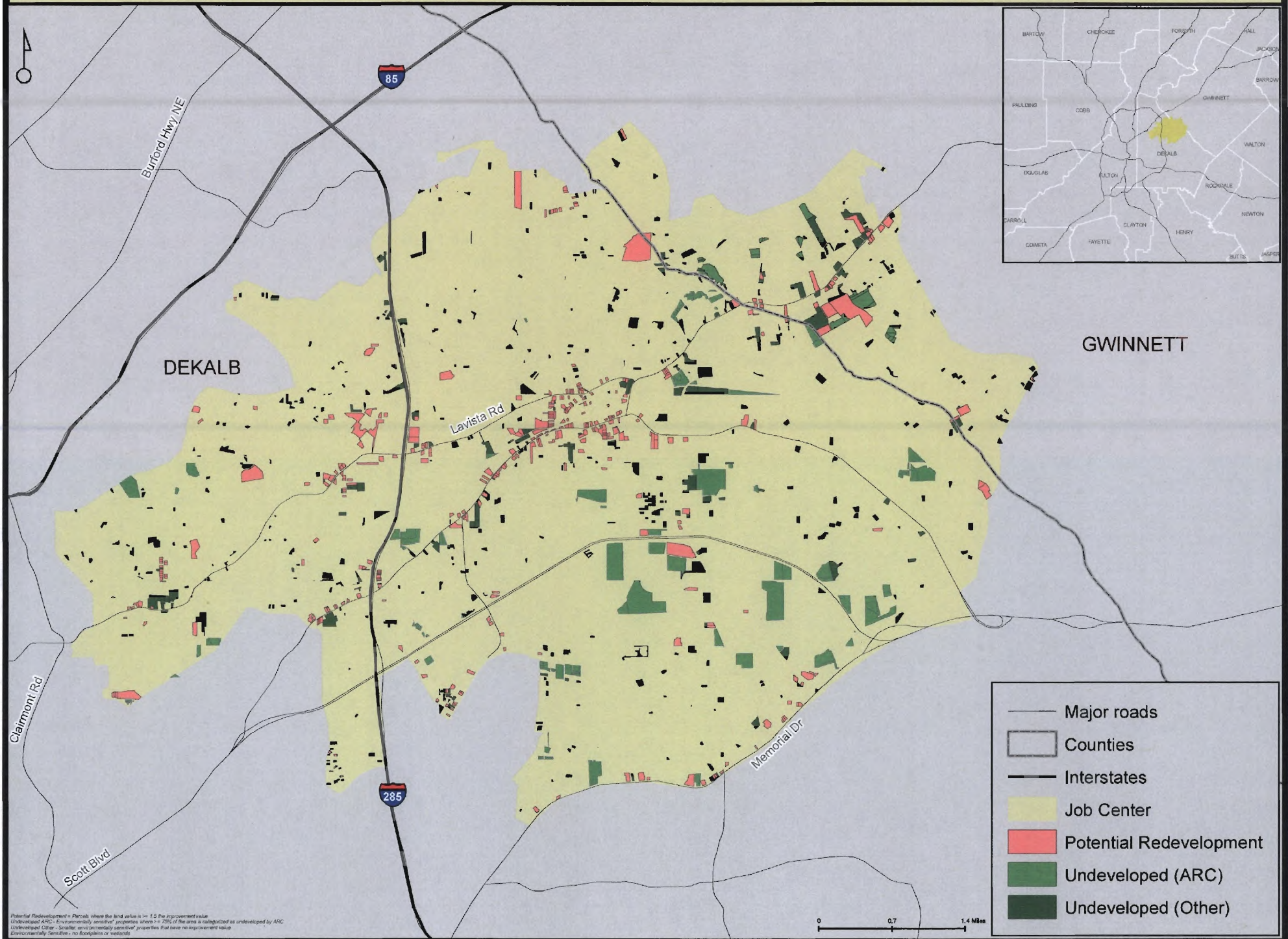
Potential Land Supply - Midtown Job Center



Potential Land Supply - Norcross Job Center

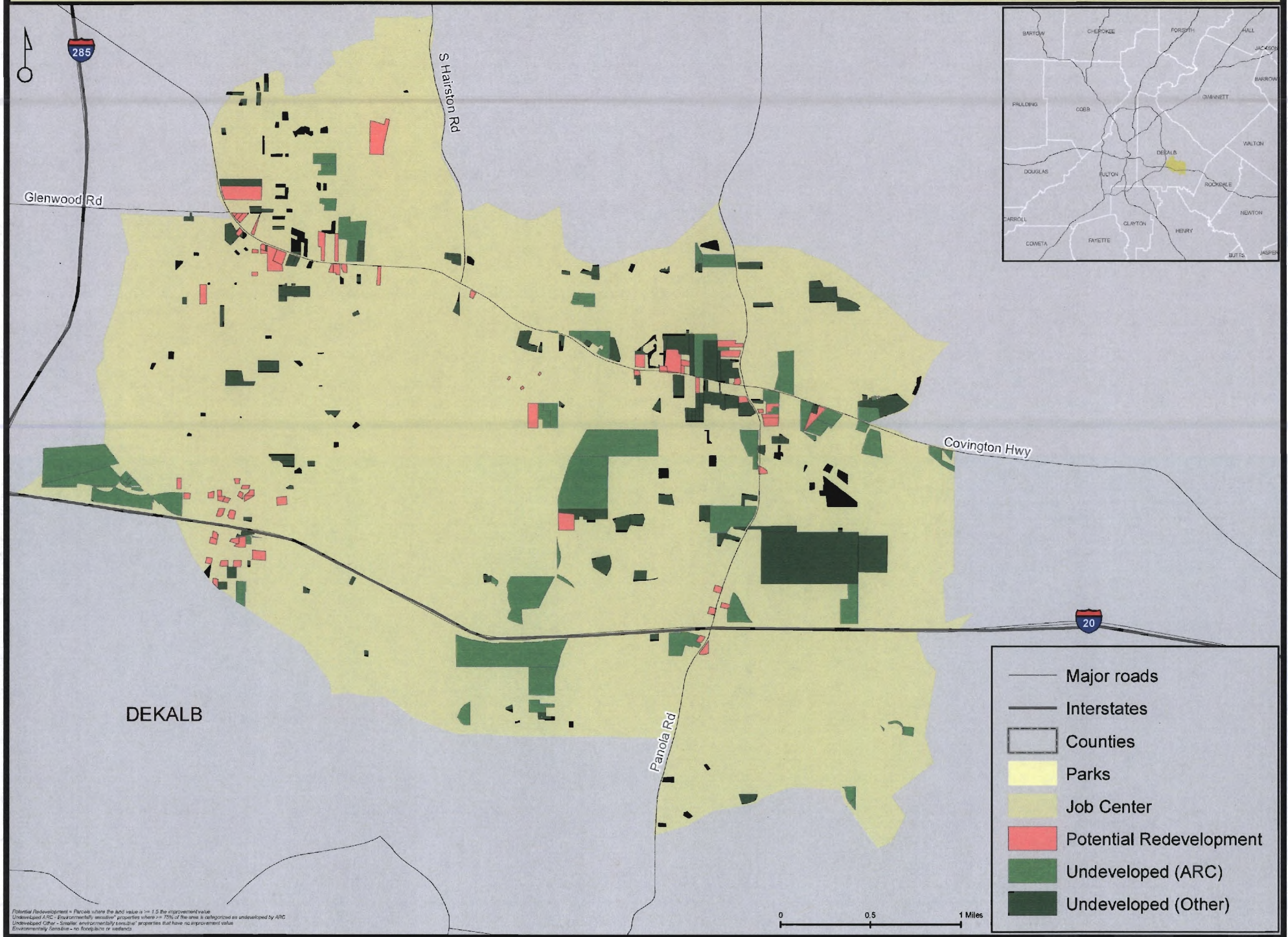


Potential Land Supply - North DeKalb / Northlake Mall Job Center

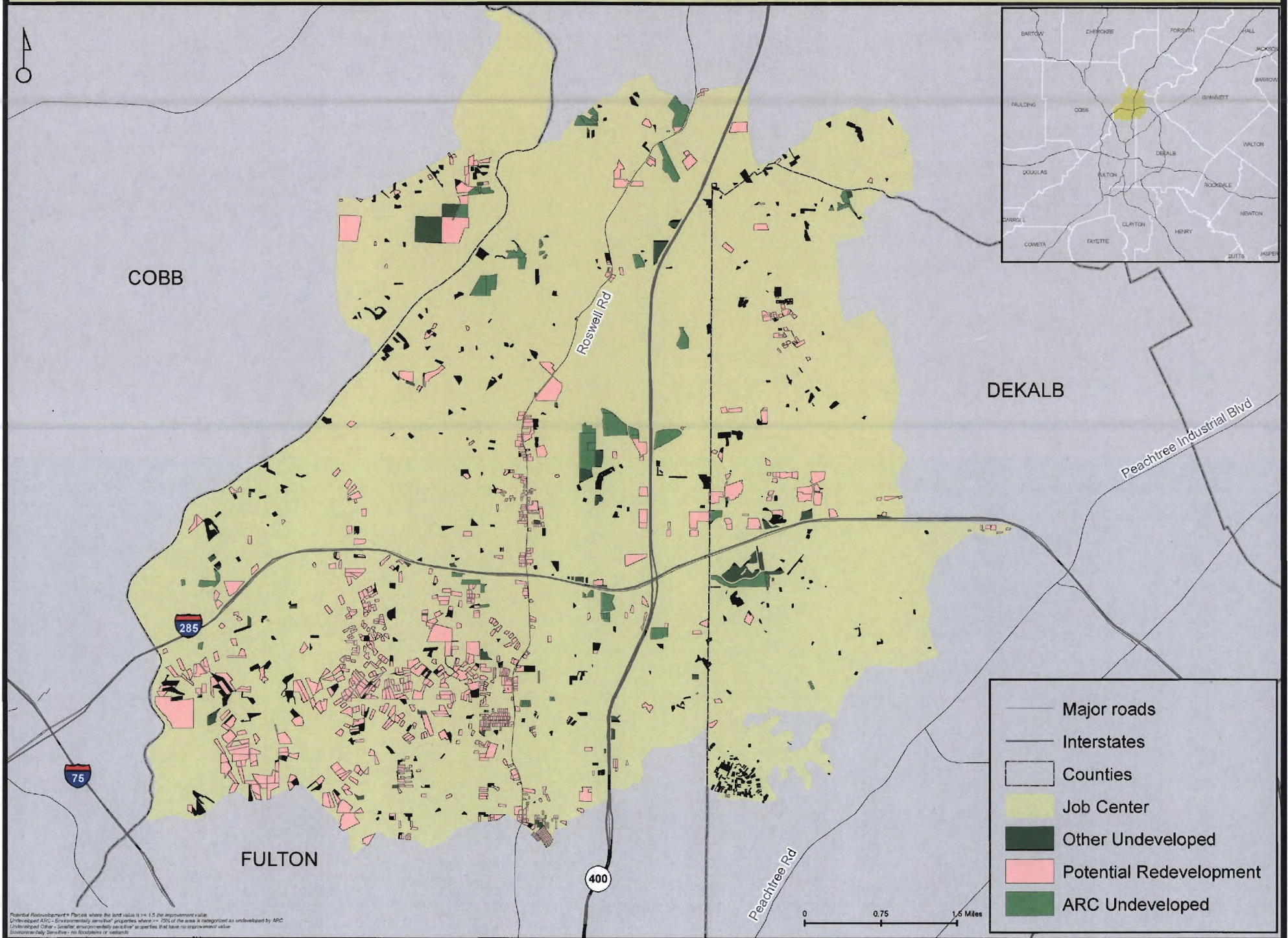


Potential Redevelopment - Parcels where the land value is ≥ 1.5 the improvement value
 Undeveloped ARC - Environmentally sensitive properties where $\geq 75\%$ of the area is categorized as undeveloped by ARC
 Undeveloped Other - Smaller environmentally sensitive properties that have no improvement value
 Environmentally Sensitive - no floodplains or wetlands

Potential Land Supply - Panola Road Corridor Job Center

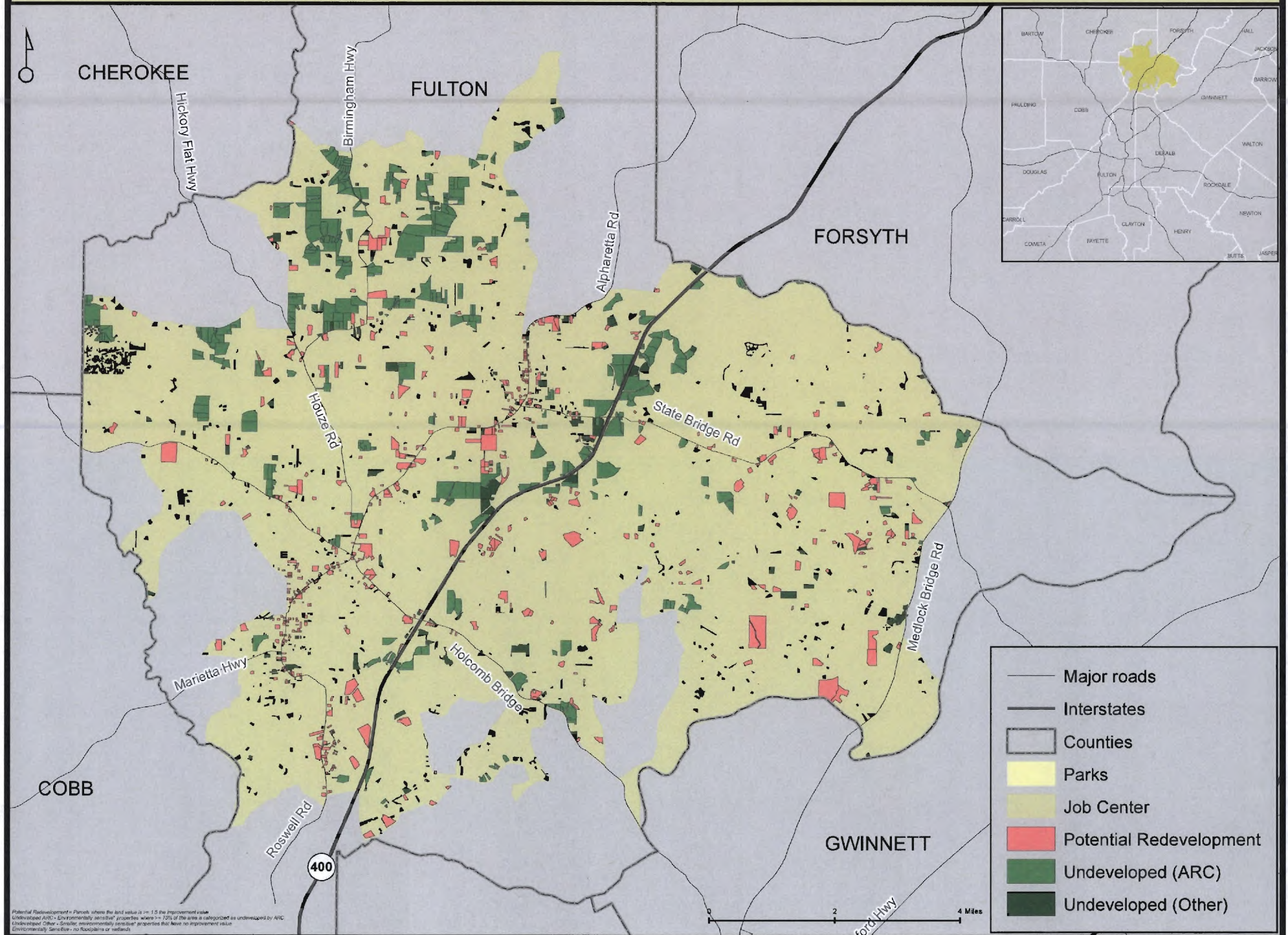


Potential Land Supply - Perimeter Job Center



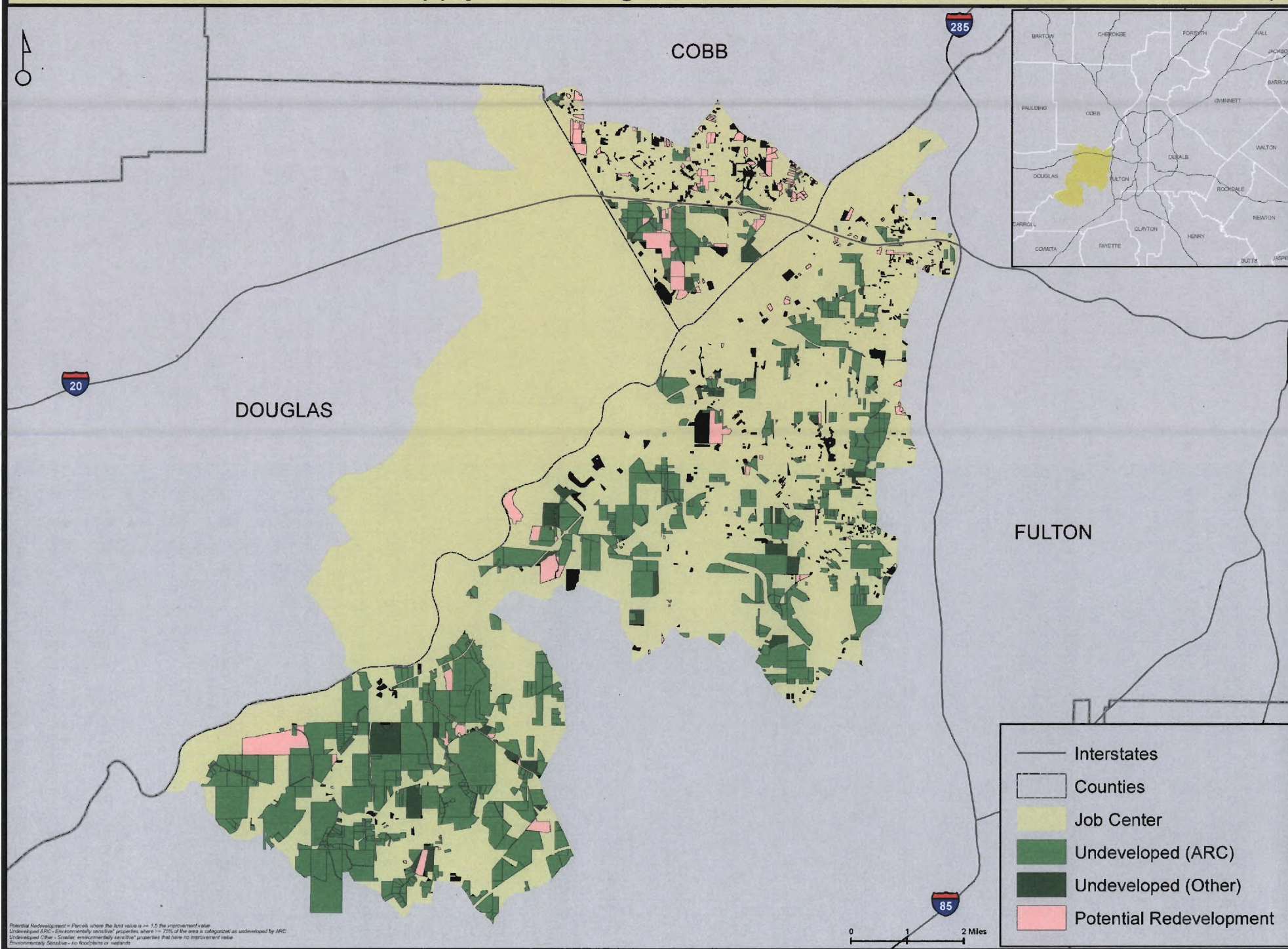
Potential Redevelopment = Parcels where the land value is >= 1.5 the improvement value.
 Undeveloped ARC = Environmentally sensitive properties where >= 75% of the area is categorized as undeveloped by ARC.
 Undeveloped Other = Smaller environmentally sensitive properties that have no improvement value.
 Environmentally Sensitive = no footprints or violations.

Potential Land Supply - Roswell / Alpharetta Job Center



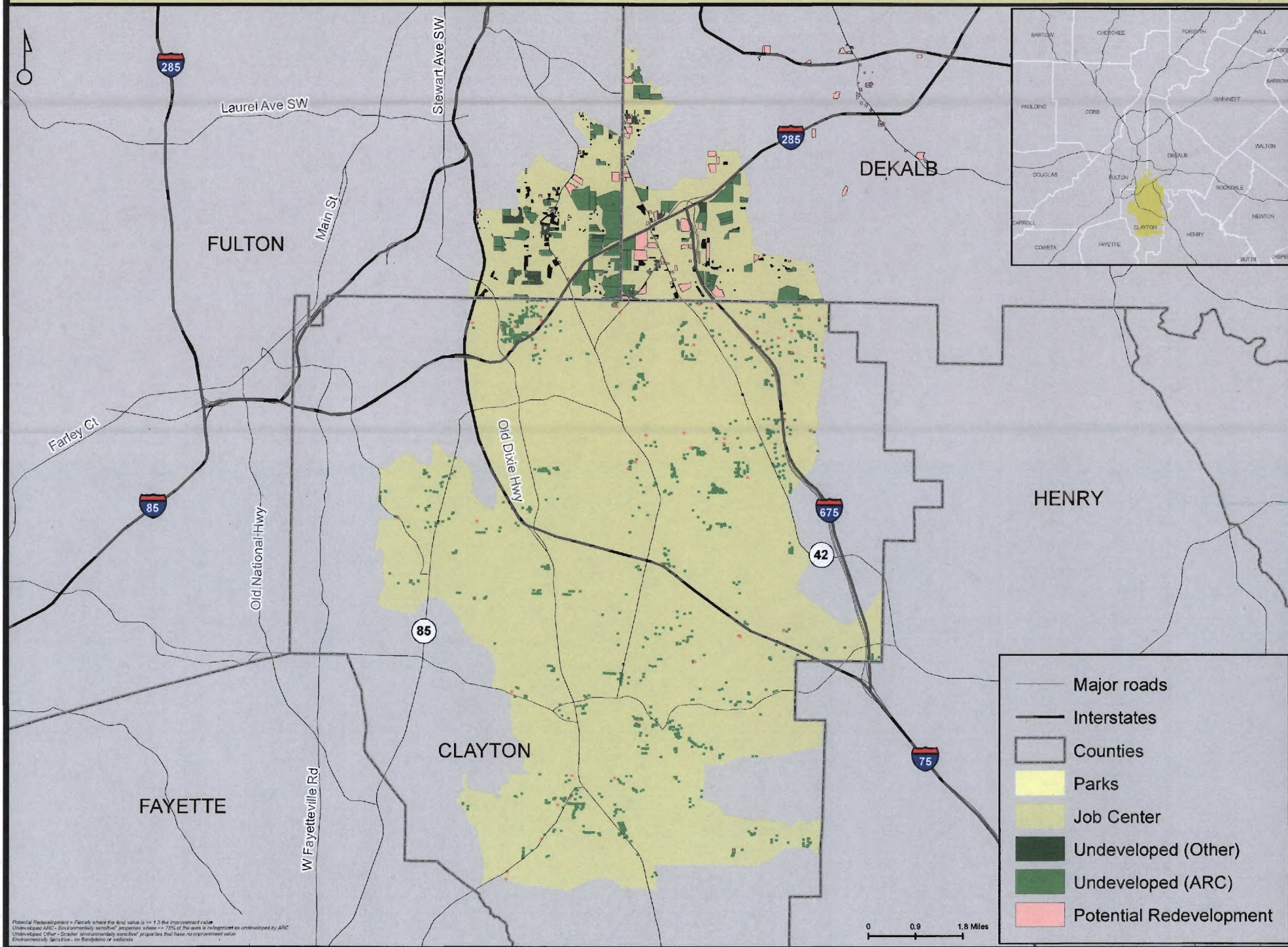
Potential Land Supply* - Six Flags / Fulton Industrial Job Center

* No data for Douglas

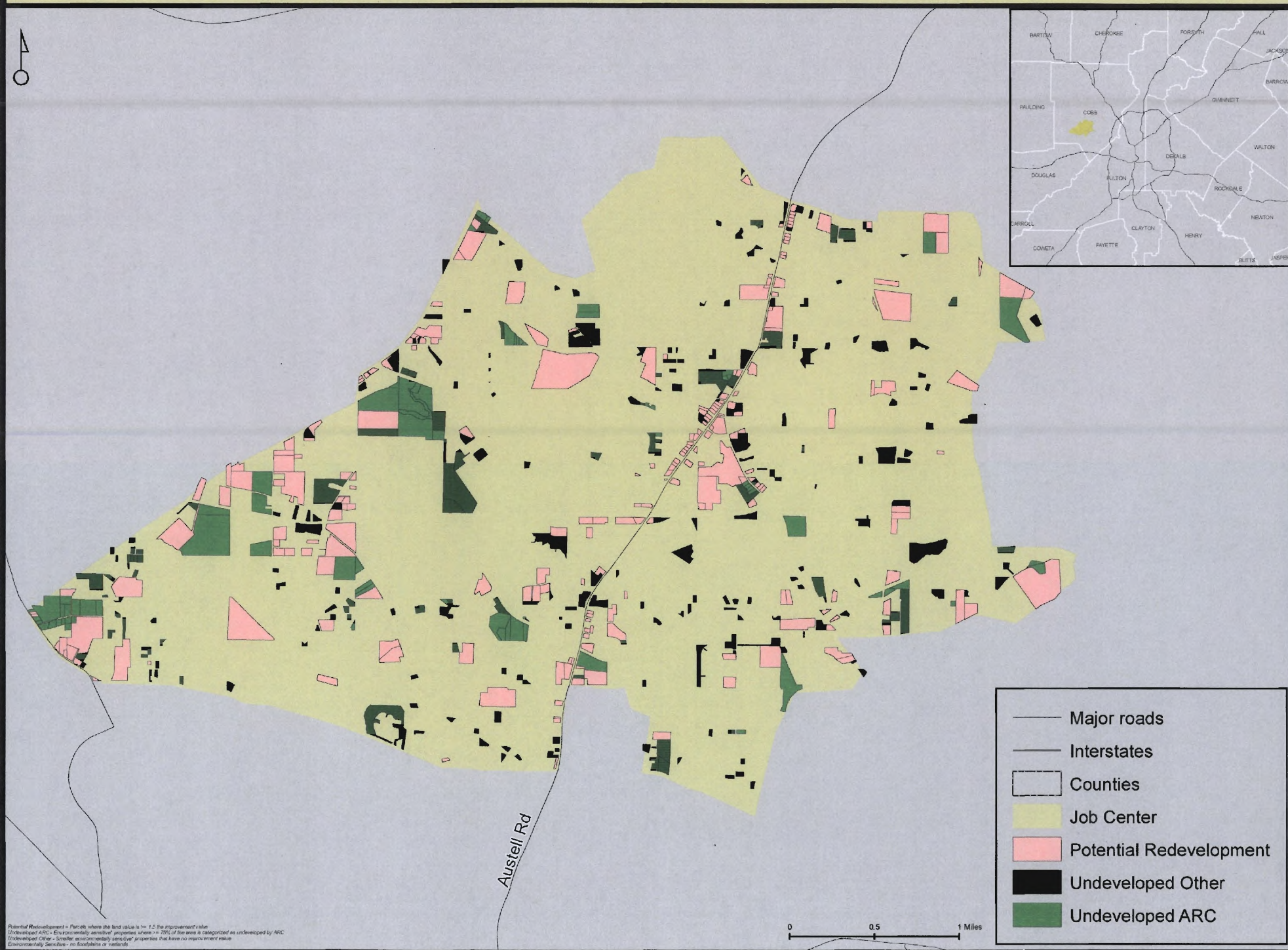


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 Environmentally Sensitive = No floodplains or wetlands

Potential Land Supply - South Atlanta Job Center

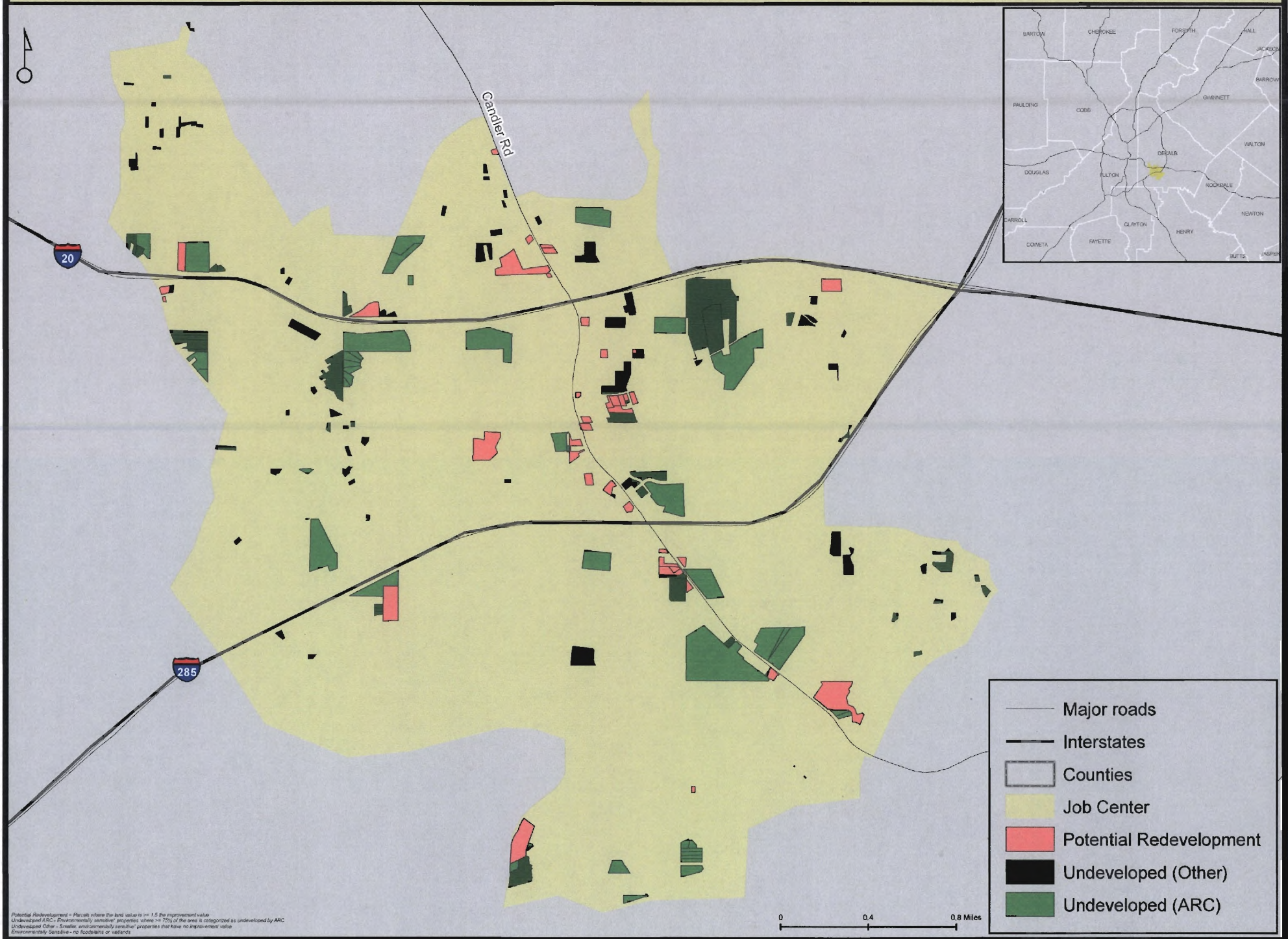


Potential Land Supply - South Cobb / Austell Job Center

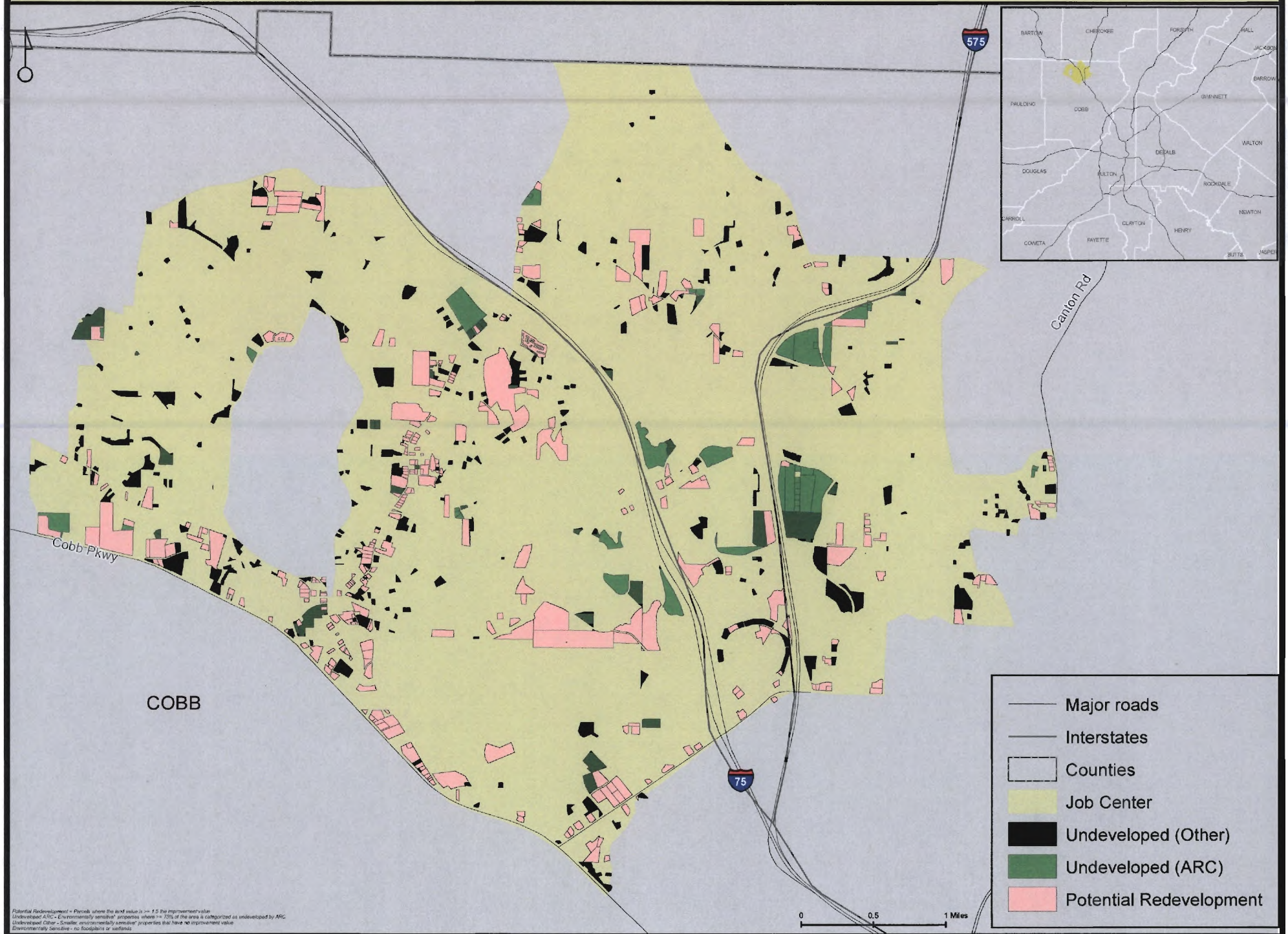


Potential Redevelopment = Parcels where the land value is ≥ 1.5 the improvement value
 Undeveloped ARC = Environmentally sensitive properties where $\geq 75\%$ of the area is categorized as undeveloped by ARC
 Undeveloped Other = Smaller environmentally sensitive properties that have no improvement value
 Environmentally Sensitive = no floodplains or wetlands

Potential Land Supply - South DeKalb Job Center

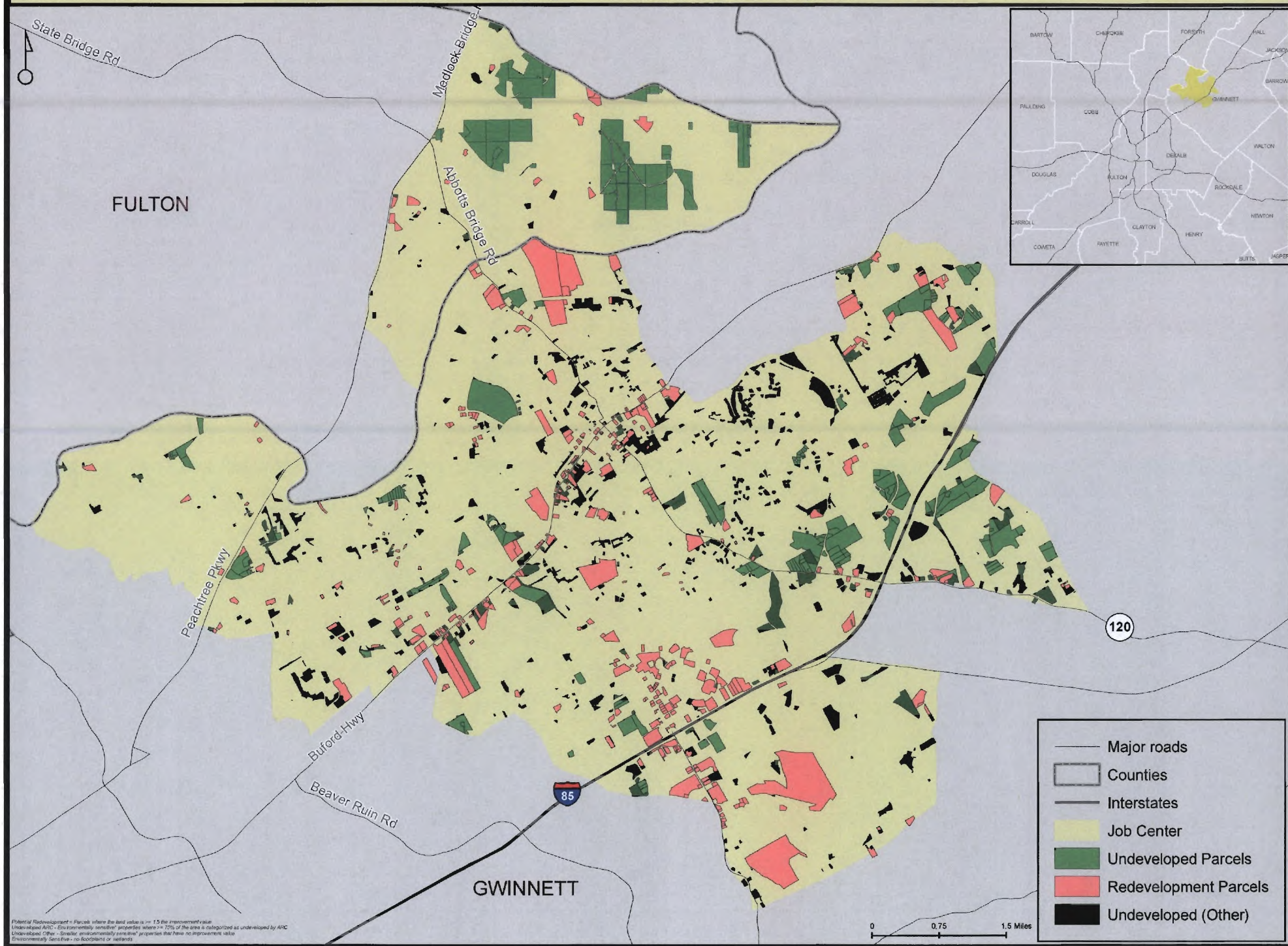


Potential Land Supply - Town Center Job Center

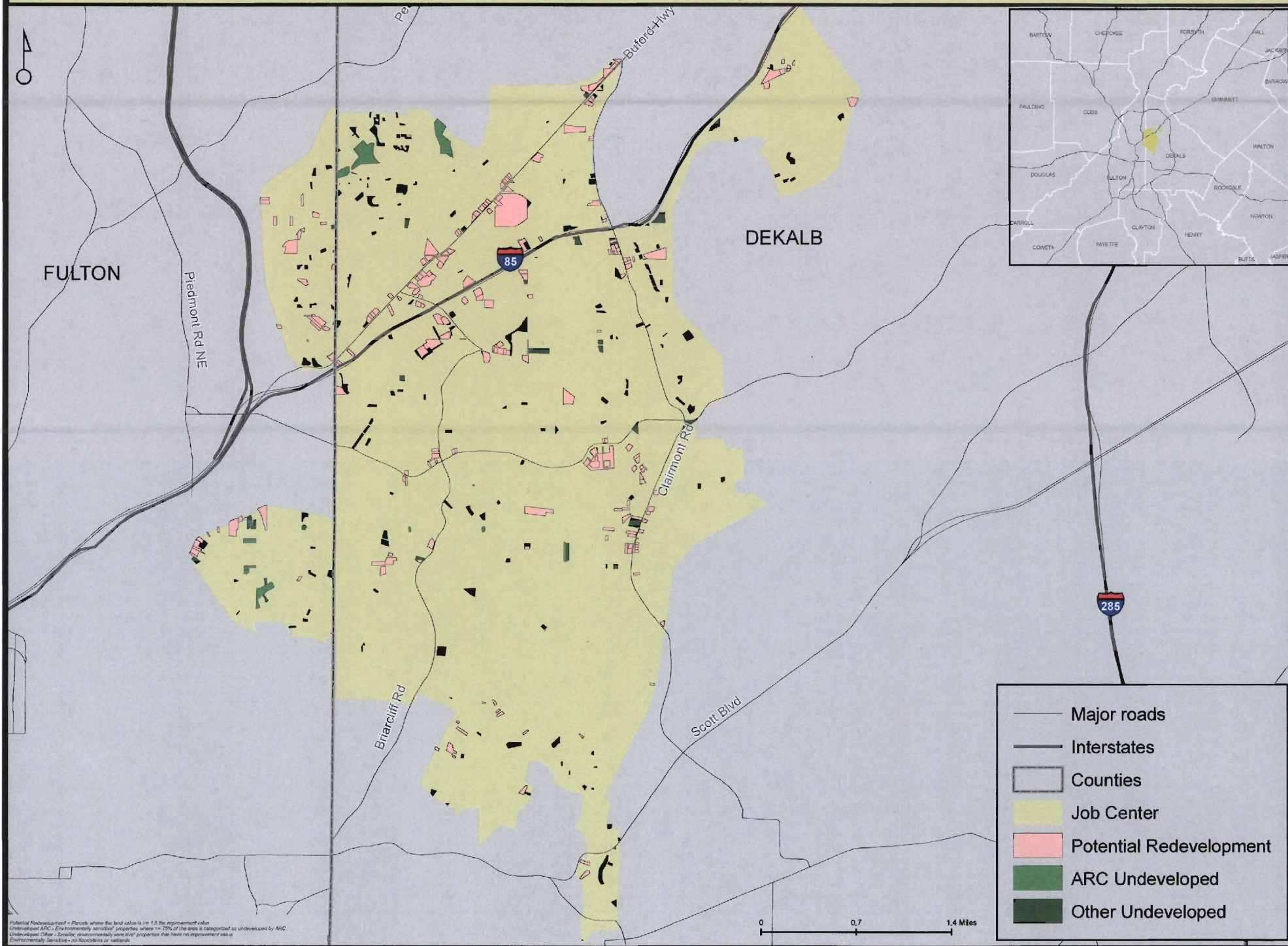


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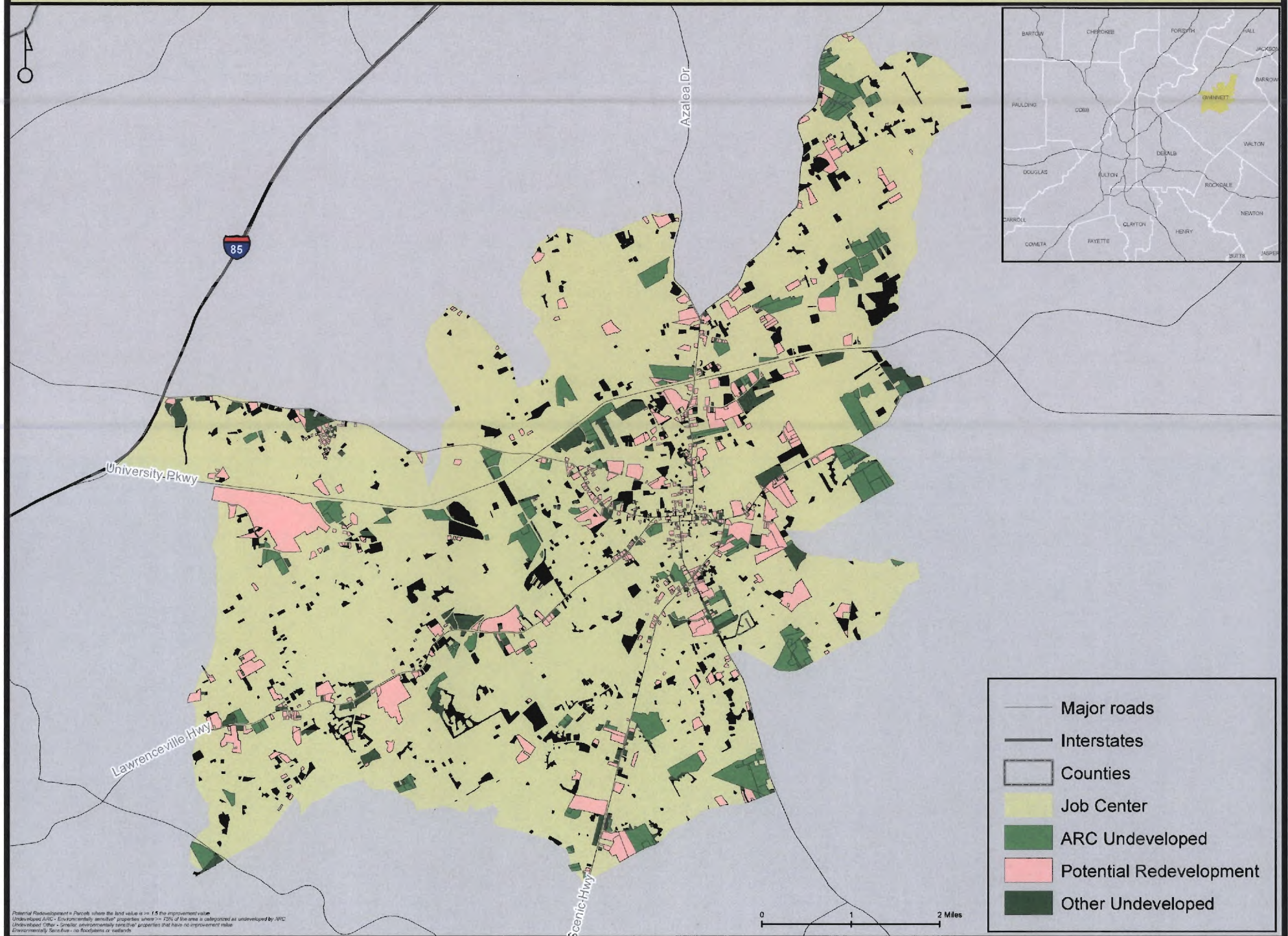
Potential Land Supply - Duluth/Berkeley Job Center



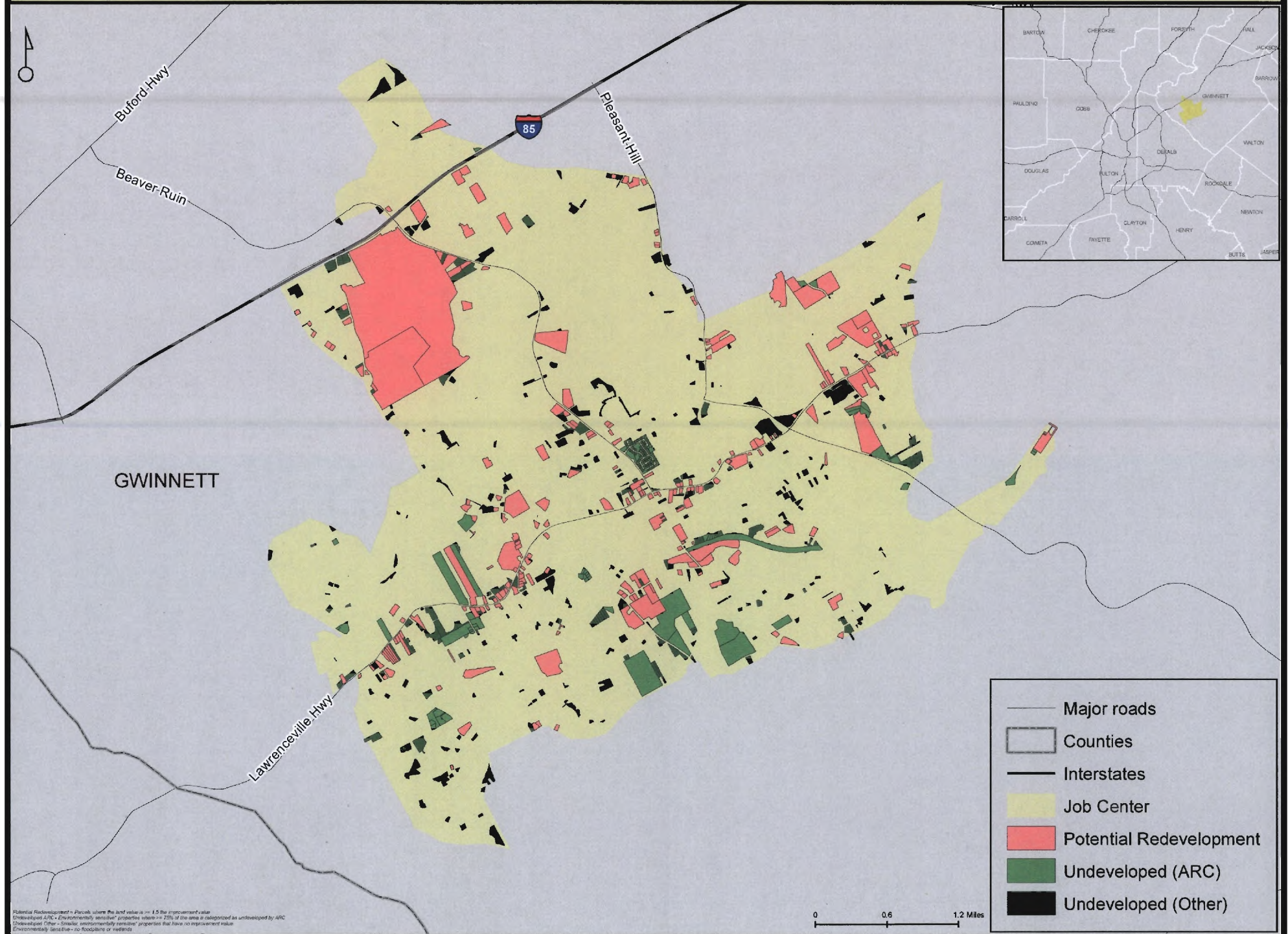
Potential Land Supply - Emory Job Center



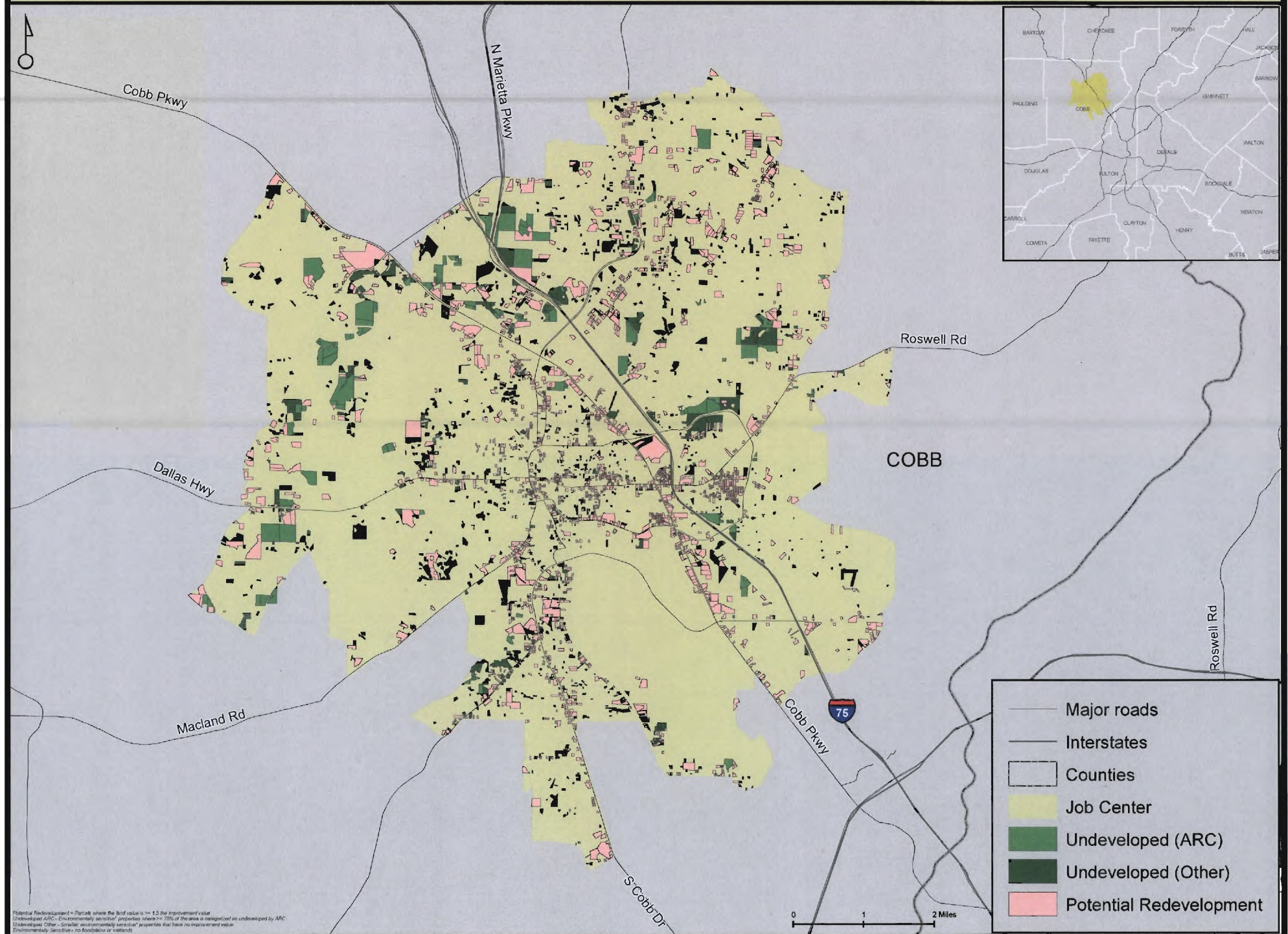
Potential Land Supply - Lawrenceville Job Center



Potential Land Supply - Lilburn Job Center



Potential Land Supply - Marietta Job Center



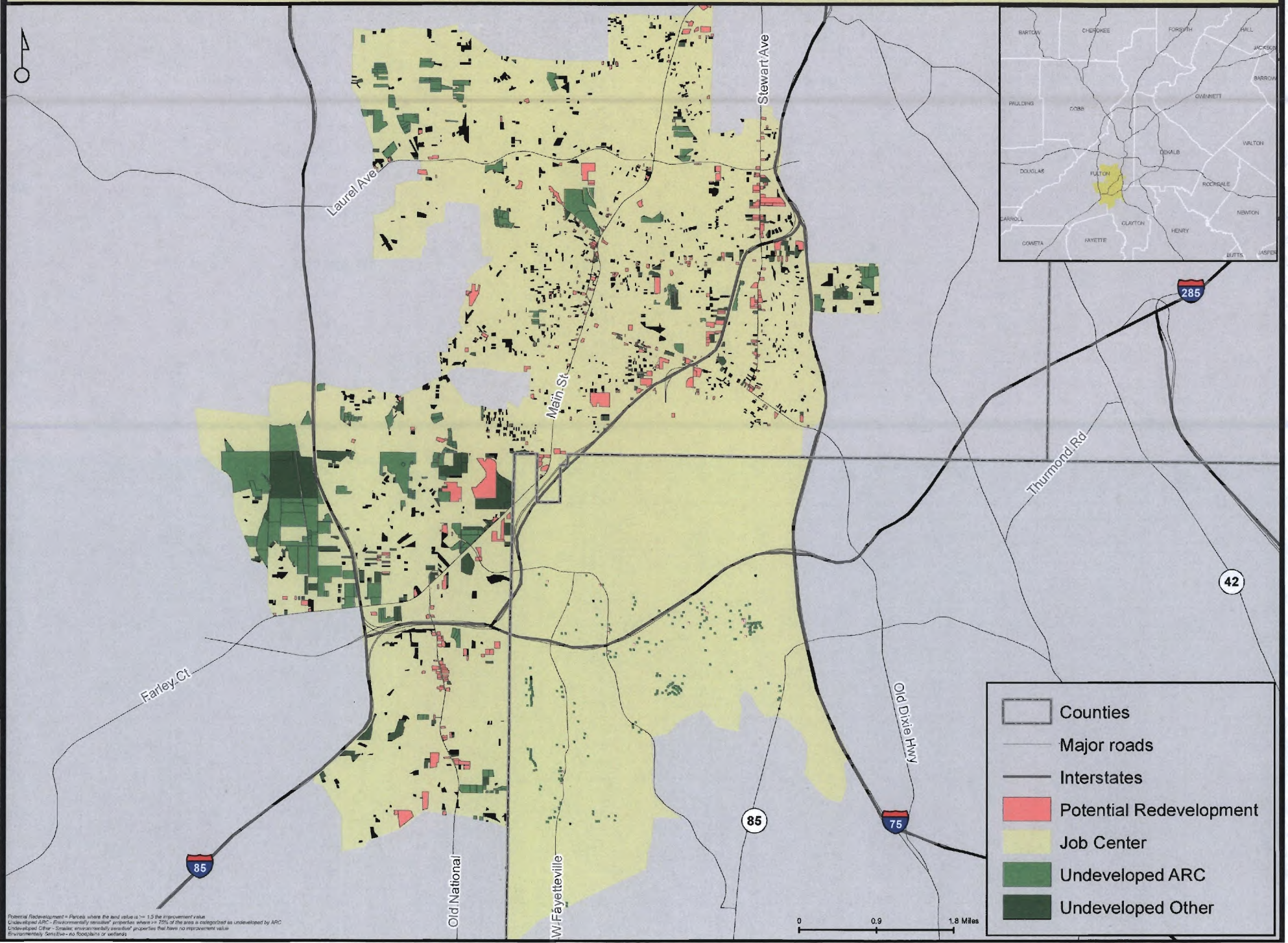
Metro Atlanta Job Centers

Source - Fair Share Housing in the Atlanta Region, Georgia Institute of Technology, City and Regional Planning

- Job Center
- 1 Airport
- 2 Buckhead
- 3 Chamblee / Doraville
- 4 Cumberland / Vinings
- 5 Decatur
- 6 Downtown Atlanta
- 7 Duluth / Berkeley
- 8 East Corridor / Clarkston
- 9 Emory / North Druid Hills
- 10 Lawrenceville
- 11 Lilburn
- 12 Marietta
- 13 Midtown
- 14 Norcross
- 15 North DeKalb / Northlake
- 16 Panola rd.
- 17 Perimeter
- 18 Roswell / Alpharetta
- 19 Six Flags / Fulton Industrial
- 20 South Atlanta
- 21 South Cobb / Austell
- 22 South DeKalb
- 23 Town Center

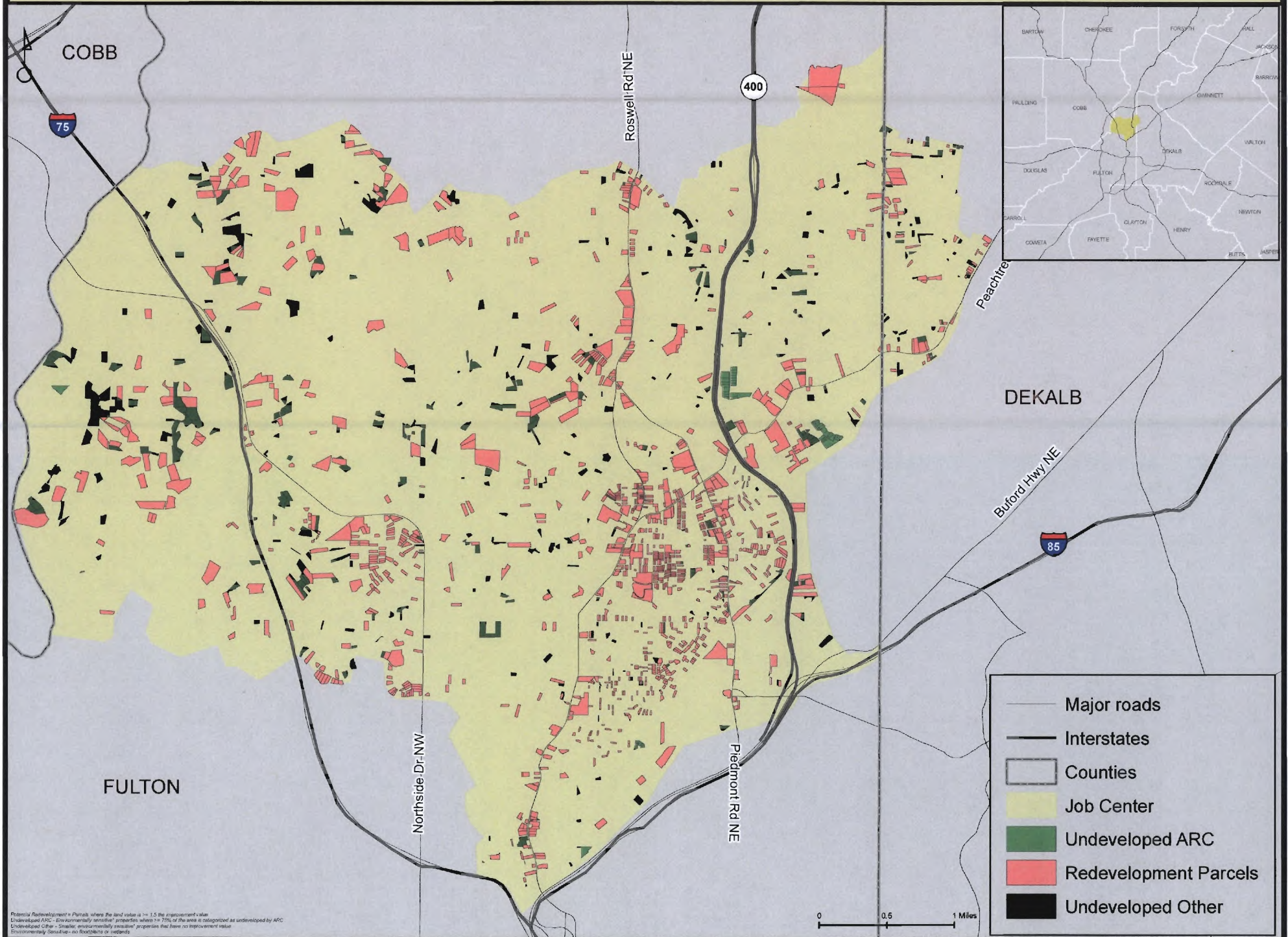
- 1 Airport
- 2 Buckhead
- 3 Chamblee / Doraville
- 4 Cumberland / Vinings
- 5 Decatur
- 6 Downtown Atlanta
- 7 Duluth / Berkeley
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- 11 Lilburn
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- 13 Midtown
- 14 Norcross
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- 17 Perimeter
- 18 Roswell / Alpharetta
- 19 Six Flags / Fulton Industrial
- 20 South Atlanta
- 21 South Cobb / Austell
- 22 South DeKalb
- 23 Town Center

Potential Land Supply - Airport Job Center

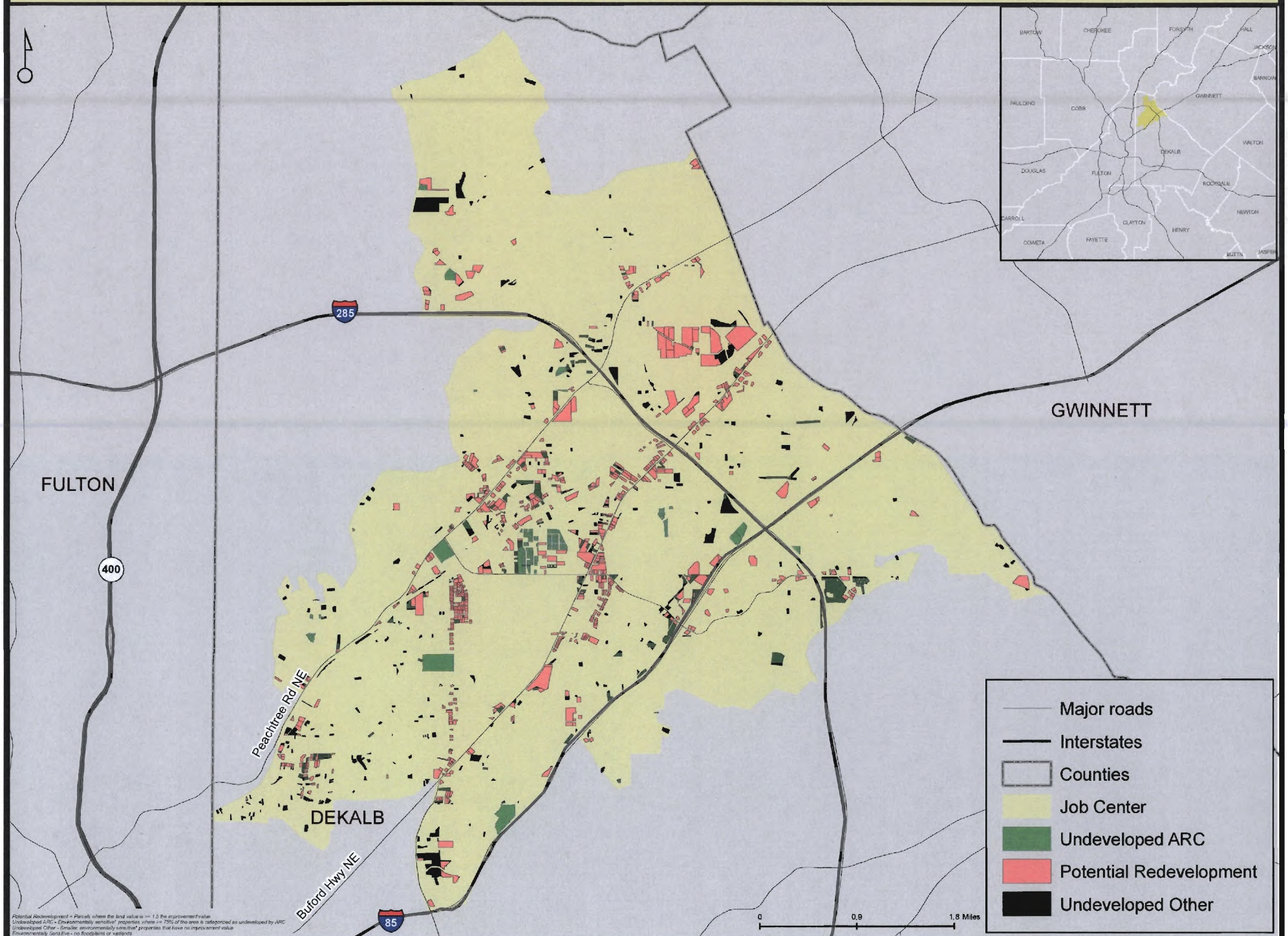


Potential Redevelopment = Parcels where the land value is ≥ 1.5 the improvement value
 Undeveloped ARC = Environmentally sensitive properties where $\geq 75\%$ of the area is categorized as undeveloped by ARC
 Undeveloped Other = Smaller environmentally sensitive properties that have no improvement value
 Environmentally Sensitive = No floodplains or wetlands

Potential Land Supply - Buckhead Job Center

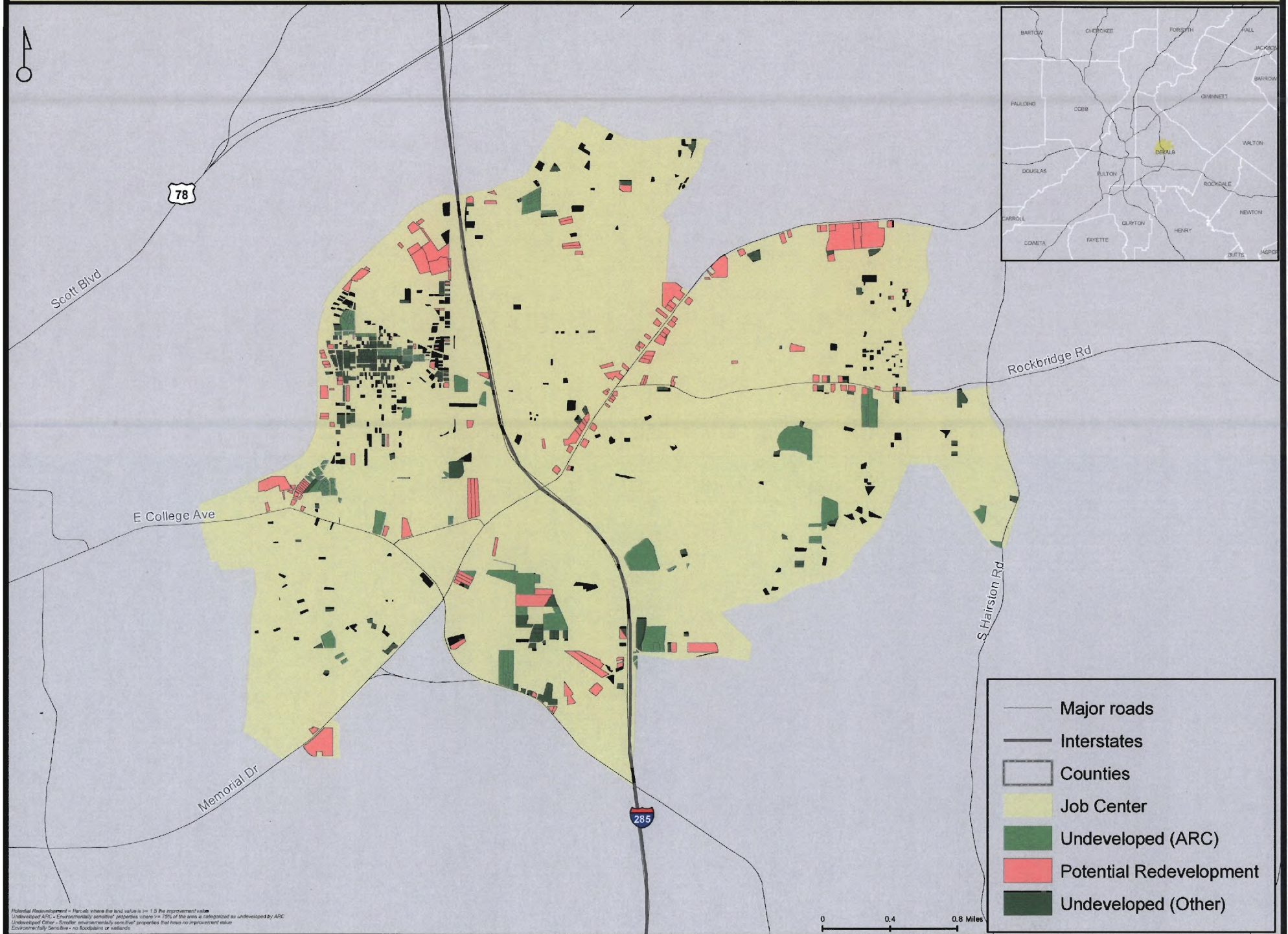


Potential Land Supply - Chamblee/Doraville Job Center

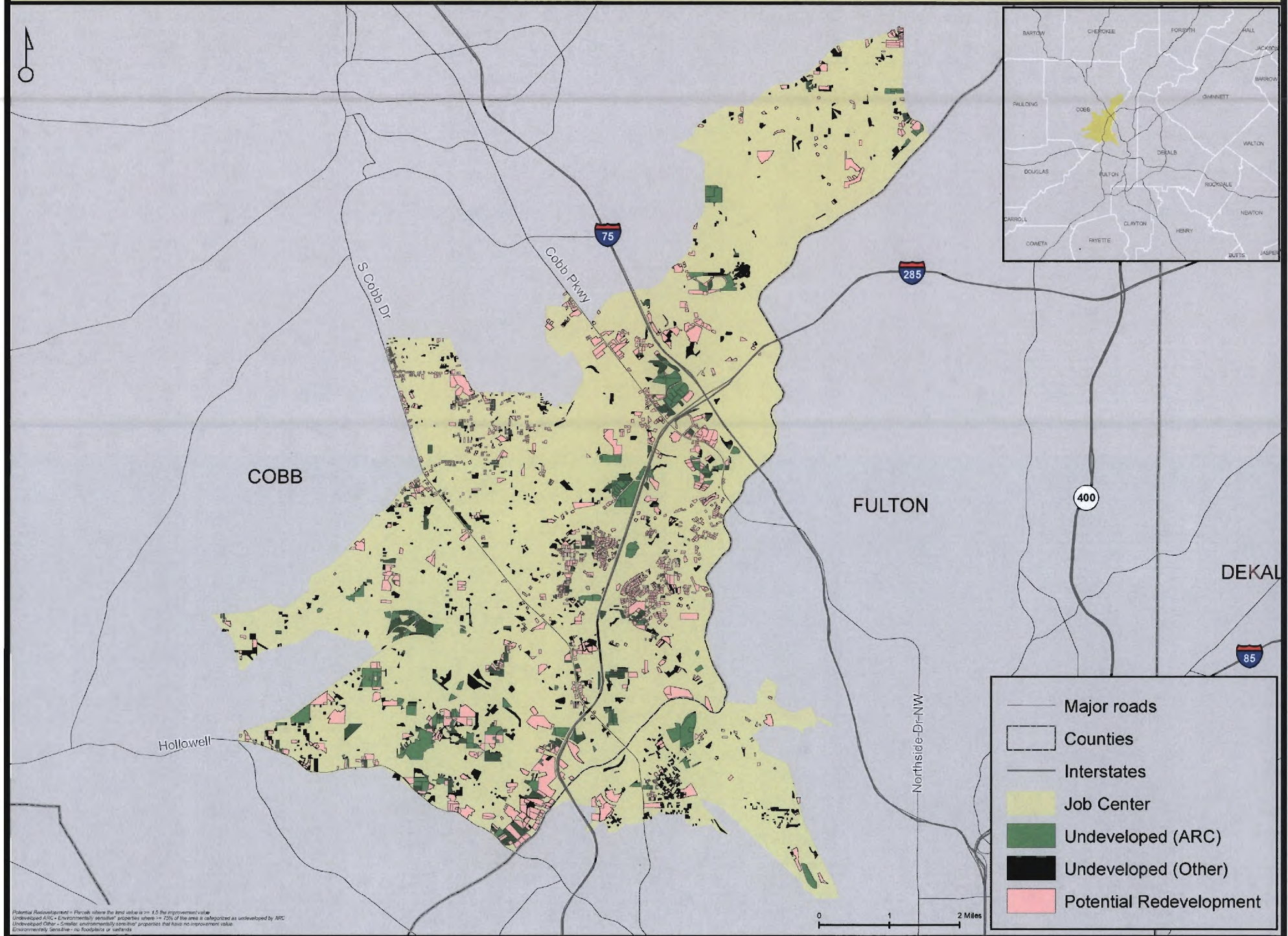


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 Undeveloped ARC = Environmentally sensitive properties where $\geq 75\%$ of the area is categorized as undeveloped by ARC.
 Undeveloped Other = Smaller environmentally sensitive properties that have no improvement value.
 Environmentally sensitive = no floodplains or wetlands.

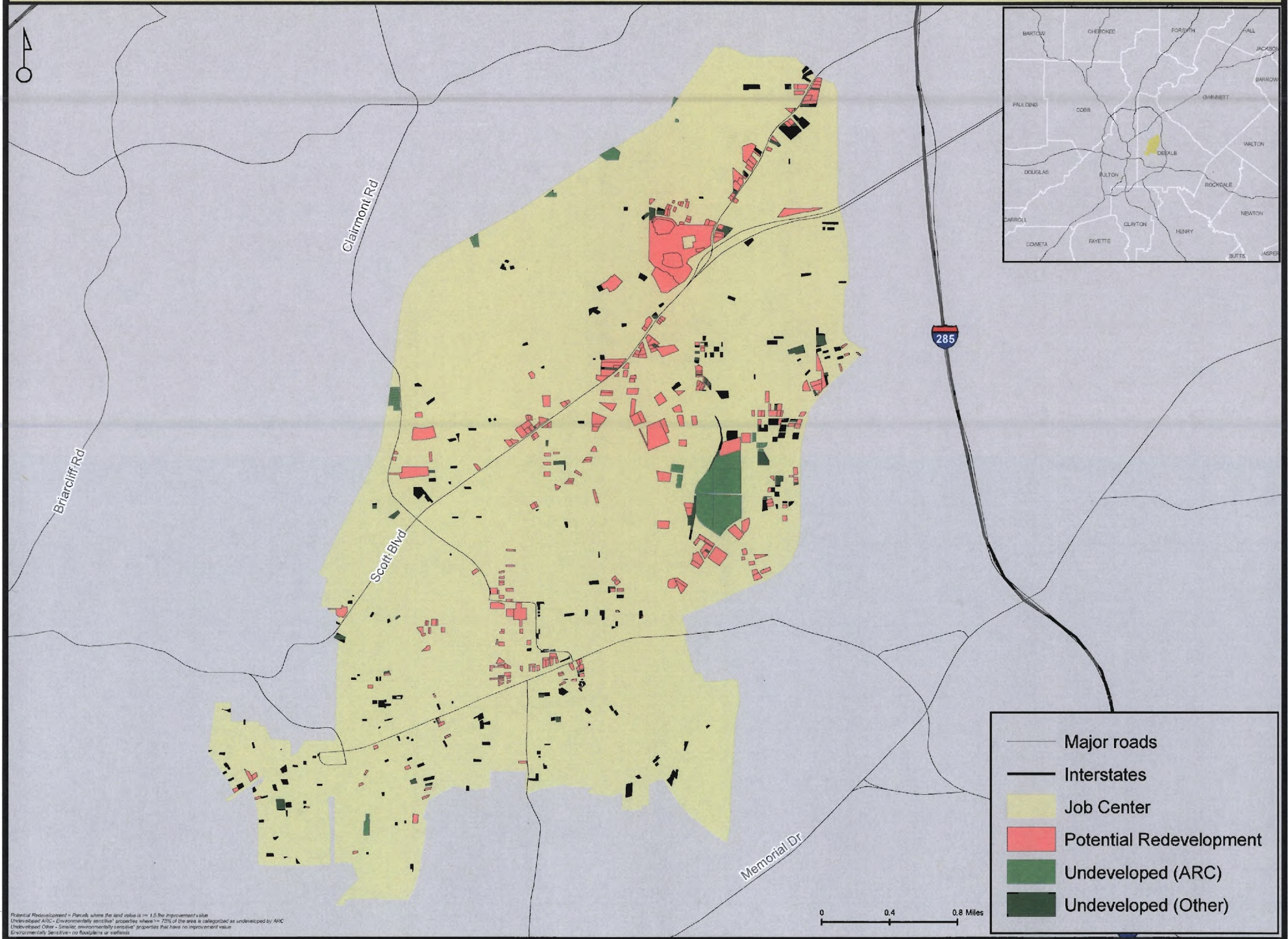
Potential Land Supply - Clarkston Job Center



Potential Land Supply - Cumberland / Vinings Job Center

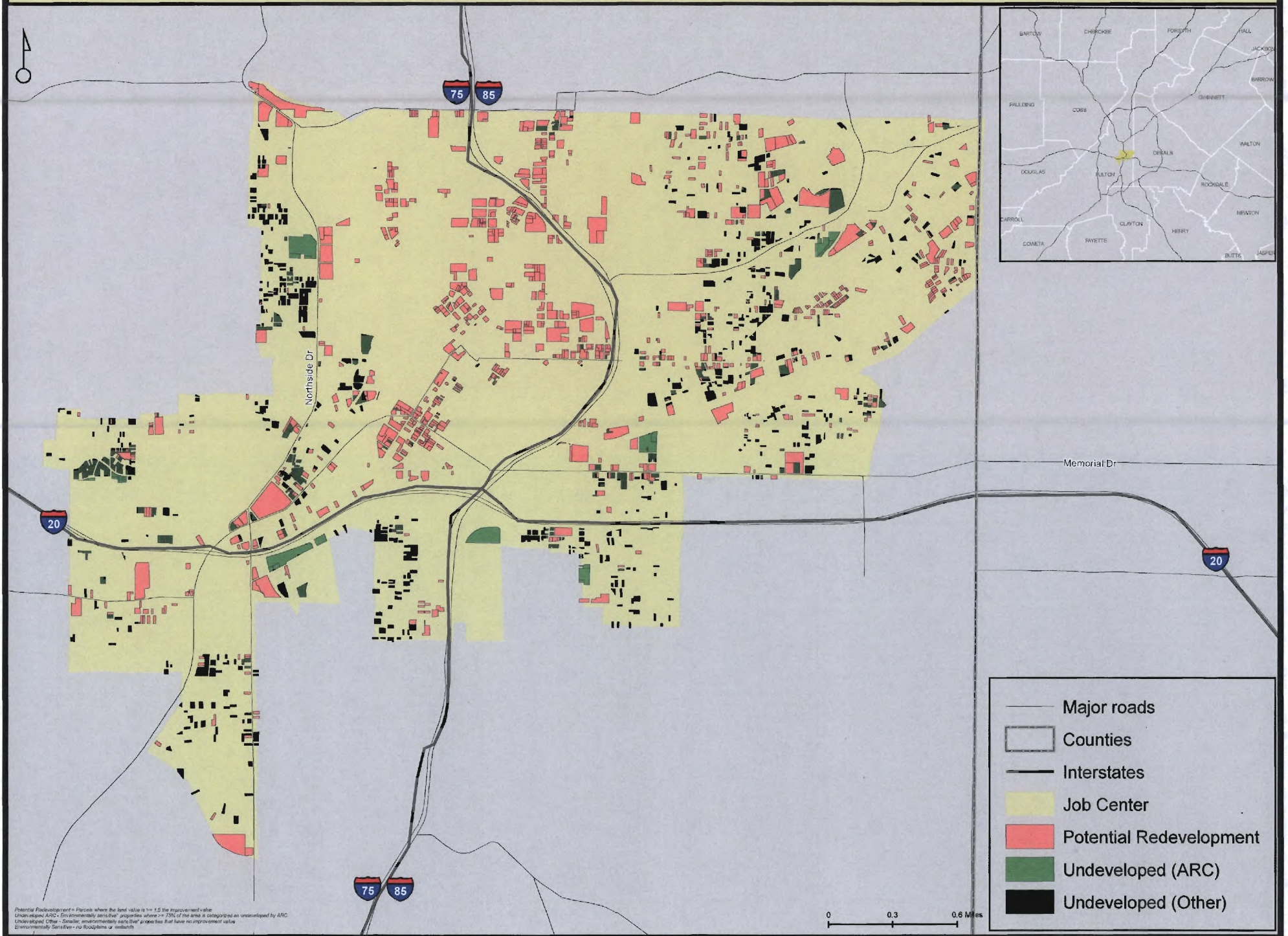


Potential Land Supply - Decatur Job Center



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 Undeveloped ARC = Environmentally sensitive properties where $\geq 75\%$ of the area is categorized as undeveloped by ARC
 Undeveloped Other = Similar environmentally sensitive properties that have no improvement value
 Environmentally Sensitive = no floodplains or wetlands

Potential Land Supply - Downtown Atlanta Job Center



Potential Redevelopment = Parcels where the land value is ≥ 1.5 the improvement value
 Undeveloped (ARC) = Environmentally sensitive properties where $\geq 75\%$ of the area is categorized as undeveloped by ARC
 Undeveloped (Other) = Smaller, environmentally sensitive properties that have no improvement value
 Environmentally Sensitive = no floodplains or wetlands